LDWSH-1333

RETEC 5360

Lower Duwamish Waterway Group

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MEMORANDUM

To: Allison Hiltner and Rick Huey

From: LDWG

Subject: Responsiveness summary for January 31, 2001 comments on Duwamish RI Task 2 data deliverables

Date: April 3, 2001

Cc:

This memo summarizes how the comments received from EPA and Ecology on January 31, 2001 were addressed in revising the draft of the following Task 2 deliverables for the LDW RI:

- Criteria for evaluating and accepting data sets
- List of reports for historical site characterization
- Conceptual design for database

For brevity, we have paraphrased the original comments below, followed by our response in italics.

General Comments

1. This Technical Memorandum does not fully meet the requirements of the AOC or SOW. A complete Task 2 technical memorandum must address how all the data needed for the RI will be collected and compiled.

The SOW for Task 2 stated that data would be assembled and evaluated for possible inclusion in the RI. Thirteen data types were listed in the SOW. The SOW later states that data will be compiled into a single relational database. The SOW does not explicitly define which data would be included in the database.

The introduction to the memoranda has been substantially revised to make it clear what types of data are and are not to be included in the relational database being constructed for this project. In contrast to the initial draft of

these deliverables, which dealt primarily with surface sediment chemistry issues, the revised draft addresses the four data types that we anticipate loading into our database – sediment chemistry, tissue chemistry, sediment bioassays, and benthic macroinvertebrates. Other types of data from the bulleted list included in the SOW are not addressed in these memos except to indicate that the sources and data reduction methods used for these other data will be extensively described in the documents in which they are used (e.g., the risk assessments). Since each of the three deliverables now addresses all the data types we are planning to add to the relational database, we believe that these memoranda now satisfy the requirements of the AOC and SOW.

2. Reviewers recommend that all data from individual studies be entered into the database, including data that might not be used for risk-based decision-making. Data flags can be used to note problems with the data to prevent it from being used inappropriately.

Since the primary focus of the Phase 1 RI is risk-based decision-making, only data sets that can be used for that purpose are being added to the database. Other data sets, such as those collected more than 10 years ago and those with insufficient QC information, may be added at a future date. Loading all the data sets now that might be needed for the entire project is a laudable goal; however, doing so would expend significant amounts of time and money that are needed to accomplish other tasks within the demanding schedule for the Phase 1 RI. For each data set that meets the event-level DQOs specified in the document, all records are being loaded regardless of whether they may be used for risk-based decision-making. Flags are being added to specific records as specified in the DQO document. Data sets that do not meet the event-level DQOs will be identified in the fourth Task 2 deliverable "Summary of environmental data in the database."

3. Insufficient information is provided in the technical memorandum for the agencies to evaluate LDWG's proposed database. Some reviewers questioned why LDWG needs to build their own database when SEDQUAL is available and can meet project needs.

The third Task 2 deliverable, "Conceptual model of the database", has been revised to provide much more information about the proposed database. This deliverable now includes an entity-relationship diagram (ERD) and text that describes the manner in which various data types are stored in the database.

We disagree that SEDQUAL can meet project needs. LDWG's proposed database supports many more types of data, including metadata and QC information, compared to SEDQUAL. The divergence between the two data systems in the

depth of information being assembled for historical sampling events is not great, but future data that may be collected by LDWG will be better supported in the data system described in the third Task 2 deliverable. Sufficient information will be added in support of newly collected data to allow for independent data validation.

4. The trustees recommend that LDWG use the July 1999 aerial photographs provided by USFWS as a base map. Reviewers would also like to know which horizontal datum and projection will be used to identify station locations.

LDWG is planning to use the USFWS aerial photos in their GIS. These photos may not be used for all maps, particularly those covering a large part of the study area, but they will be used for maps focusing on relatively small areas. LDWG's GIS utilizes coordinates in Washington State Plane North, NAD 83, US survey feet, so there should be no incompatibilities with the Trustee's GIS.

Specific Comments

5. **Page 1, Introduction**. Reviewers disagree that Phase 1 of the LDW RI will focus primarily on current conditions in the surface sediments.

The statement referred to in this comment has been removed. The original statement meant that current conditions in surface sediments would be the major chemical source evaluated, but did not mean to imply that other types of data would not also be used in risk analysis. Also see response to comment #1.

6. **Page 2, Section 2.0**. LDWG should include as much data in the database as possible, and use data flags to identify data that may not be appropriate to use for some purposes. The agencies should be informed if any data are excluded from a data set and why.

See response to comment #2. No records will be excluded from any data set that is being loaded to the database. A complete description of all data sets being loaded to the database will be submitted as part of the fourth Task 2 deliverable, "Summary of data in the database." To improve communication between LDWG and the agencies, the list of data sets included in the database will be delivered to the agencies prior to formal submittal of the fourth deliverable and any datasets excluded will be discussed along with the rationale for their exclusion.

7. **Page 2, Section 2.1**. What is the basis for analyzing 20% of the records in a data set to verify accuracy? The agencies would like to discuss whether it might be more useful to completely analyze the data for a priority contaminant.

The objective of the verification process is to ensure that the electronic data sets being added to the database are accurate. The value of 20% was selected as a reasonable standard to balance cost with thoroughness. The verification being conducted by LDWG is in addition to any verification that occurred when the original electronic data set was created. With respect to verifying 20% of all analytical results vs. verifying 100% of the analytical results for specific chemicals, LDWG believes it is more appropriate to perform the verification for all chemicals because this method has a higher probability of detecting any systematic errors. Systematic errors represent a larger potential problem compared to random errors.

8. **Page 3, Section 2.0**. Where errors are detected in original source files, please notify the database manager responsible for the source file so they can make the appropriate corrections.

Database managers will be notified of errors found. Text has been added to the document to acknowledge this point.

9. **Page 3, Section 2.2**. It would be helpful to have a data model of the database identifying entities and relationships.

This is the subject of the third Task 2 deliverable included in this document. A simplified ERD is now included in the document.

10. **Page 3, Section 2.2.1**. Please provide a description of the "minimum QA/QC requirements" being used for the data evaluation. Also, the memorandum should provide a discussion of how pertinent QA/QC information will be summarized for each study.

We have indicated that the minimum QA/QC requirements are equivalent to Ecology's QA1 guidelines.[1] Pertinent QA/QC information for each study will be summarized in the fourth Task 2 deliverable, "Summary of environmental data in the database."

11. **Page 4, Section 2.2.2.** While an attribute should be added that indicates dredging occurred, this does not mean that the original data point is useless for helping to assess the types and levels of contamination found in a regularly maintained area. How will verification of the actual dredged prism be achieved?

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[1] PTI Environmental Services. 1989. Puget Sound Dredged Disposal Analysis Guidance Manual; Data Quality Evaluation for Proposed Dredged Material Disposal Projects. Prepared by PTI Environ-mental Services for the Washington Department of Ecology, Sediment Management Unit, Olympia, WA.

We agree that sediment data from locations that may have been subsequently dredged may be useful for some purposes. The decision on whether to use the data that have been qualified in this manner will be made on a case-by-case basis and documented appropriately. A description of how the dredged prisms are being drawn in the GIS has been added to the memo. The location of dredged prisms was obtained from the ACOE, but they have not verified the accuracy of their drawings.

12. **Page 4, Section 2.2.2**. Older co-located samples may be just as relevant as newer samples. Qualification of these data should be done with care on a case-by-case basis.

The qualification process described in the memo does not imply the data would or would not be used for a particular purpose. Adding the qualifier allows for case-by-case decisions to be made, as the commenter suggested. The agencies will be consulted on these decisions. Data older than 10 years may be added to the database prior to Task 7 of the Phase 1 RI.

13. **Page 5, Section 2.2.3**. It is premature to say that only surface sediment would be needed for estimates of exposure. Sediment at depth information may be useful in characterizing whether contamination was ongoing or historical.

The subsurface sediment chemistry data were generally collected as part of dredged material characterization studies. Typically, the depth characterized in a single sample is 4 ft or more. While it is true that some exposure to sediments at this depth is possible in situations where surface sediment is disturbed, we do not believe exposure is widespread or to these depth levels. Identifying whether contamination is ongoing or historical does not factor in to the scoping phase risk assessments. Since making such a determination may be important for the design of any early actions, subsurface chemistry data will be added to the database at a later date.

14. **Page 5, Section 2.2.4**. All detection levels should be reported in the database, not just detection levels above SQS.

The text was rewritten to clarify that all detection limits are being added to the database. Qualifiers are being added to detection limits that exceed SQS. Additional qualifiers may be added at a future date to detection limits that exceed other sediment quality objectives.

15. **Page 5, Section 2.2.4**. Please add a discussion of how data qualifiers other than detection limits will be handled. If third party data validation was performed, the electronic data set should be compared to the data validation report.

Text was added to indicate that in addition to preserving the additional data qualifiers in the electronic data set, interpreted data qualifiers would be added to each result record. These interpreted data qualifiers would be defined in the database and would be consistent across all sampling events. A comparison of third-party data validation results to the electronic data sets is being done.

16. **Page 5, Section 2.2.4**. LDWG should propose a data summation method for PCB congeners, as these are not specified in the SMS.

Since there is no universally accepted method for deriving sums for PCB congeners, we do not propose to add such sums to the database at this time. We will clearly identify how such sums are derived in the documents in which they are used.

17. **Table 1**. Two additional sets of data from Boeing RCRA investigations and sediment data from the Rhone-Poulenc site are missing.

These documents have been added to Table 1.

18. **Bibliography**. Several more documents should be added to the data types to cover all the data types listed in the SOW.

A complete bibliography covering all the data types is now in the second Task 2 deliverable. The types of data contained in each document are indicated at the end of each citation. The documents suggested by the reviewers are included in the bibliography.